

780 CMR 3610

CHIMNEYS, FIREPLACES AND SOLID FUEL-FIRED APPLIANCES

3610.1 GENERAL

3610.1.1 Scope: The provisions of 780 CMR 3610 shall control the design, construction, listing and/or installation of chimneys, fireplaces and solid fuel-fired appliances in one- and two-family buildings.

3610.2 Masonry chimneys, general: Masonry chimneys shall be constructed, anchored, supported and reinforced as required in 780 CMR 3610 and the applicable provisions of 780 CMR 3603, 3604 and 3606. Chimneys shall be structurally sound, durable, smoke tight and capable of conveying flue gases to the exterior safely.

Chimneys in wood-frame buildings, shall, at a minimum, be anchored laterally at the ceiling lines and at each floor line which is more than six feet above grade except when entirely within the framework of the building. Anchors, bolts, and straps so utilized shall be listed for such use and utilized in accordance with their listing.

3610.2.1 Support: Masonry chimneys shall be supported on foundations of solid masonry or concrete at least 12 inches (305 mm) thick and at least six inches (153 mm) beyond each side of the exterior dimensions of the chimney. Footings shall be founded on natural undisturbed earth below frostline. In areas not subject to freezing, footings shall be located a minimum of 12 inches (305 mm) below finished grade.

3610.2.2 Corbeling: Masonry chimneys shall not be corbeled more than six inches (153 mm) from a wall or foundation, nor shall a chimney be corbeled from a wall or foundation which is less than 12 inches (305 mm) in thickness unless it projects equally on each side of the wall, except that on the second story of a two-story dwelling, corbeling of chimneys on the exterior of the enclosing walls may equal the wall thickness. The projection of a single course shall not exceed one-half the unit height or one third of the unit bed depth, whichever is less.

3610.2.3 Changes in dimension: The chimney wall or chimney flue lining shall not change in size or shape within six inches (153 mm) above or below where the chimney passes through floor components, ceiling components or roof components.

3610.2.4 Additional load: Chimneys shall not support loads other than their own weight unless

they are designed and constructed to support the additional load.

3610.2.5 Termination: Chimneys shall extend at least two feet (610 mm) higher than any portion of the building within ten feet (3048 mm), but shall not be less than three feet (914 mm) above the point where the chimney passes through the roof.

3610.2.6 Wall thickness: Masonry chimney walls shall be constructed of solid masonry units with not less than four inches (102 mm) nominal thickness.

3610.2.7 Flue lining (material): All masonry chimneys shall be lined with fireclay flue liners not less than $\frac{1}{2}$ inch (15.9 mm) in thickness or with other approved liner of material that will resist, without cracking or softening, a temperature of 1,800°F (982°C).

Note: Lined masonry chimneys may require additional metal liners when such chimneys convey the exhaust products of gas-fired or oil-fired appliances - refer also to 248 CMR or 527 CMR as applicable.

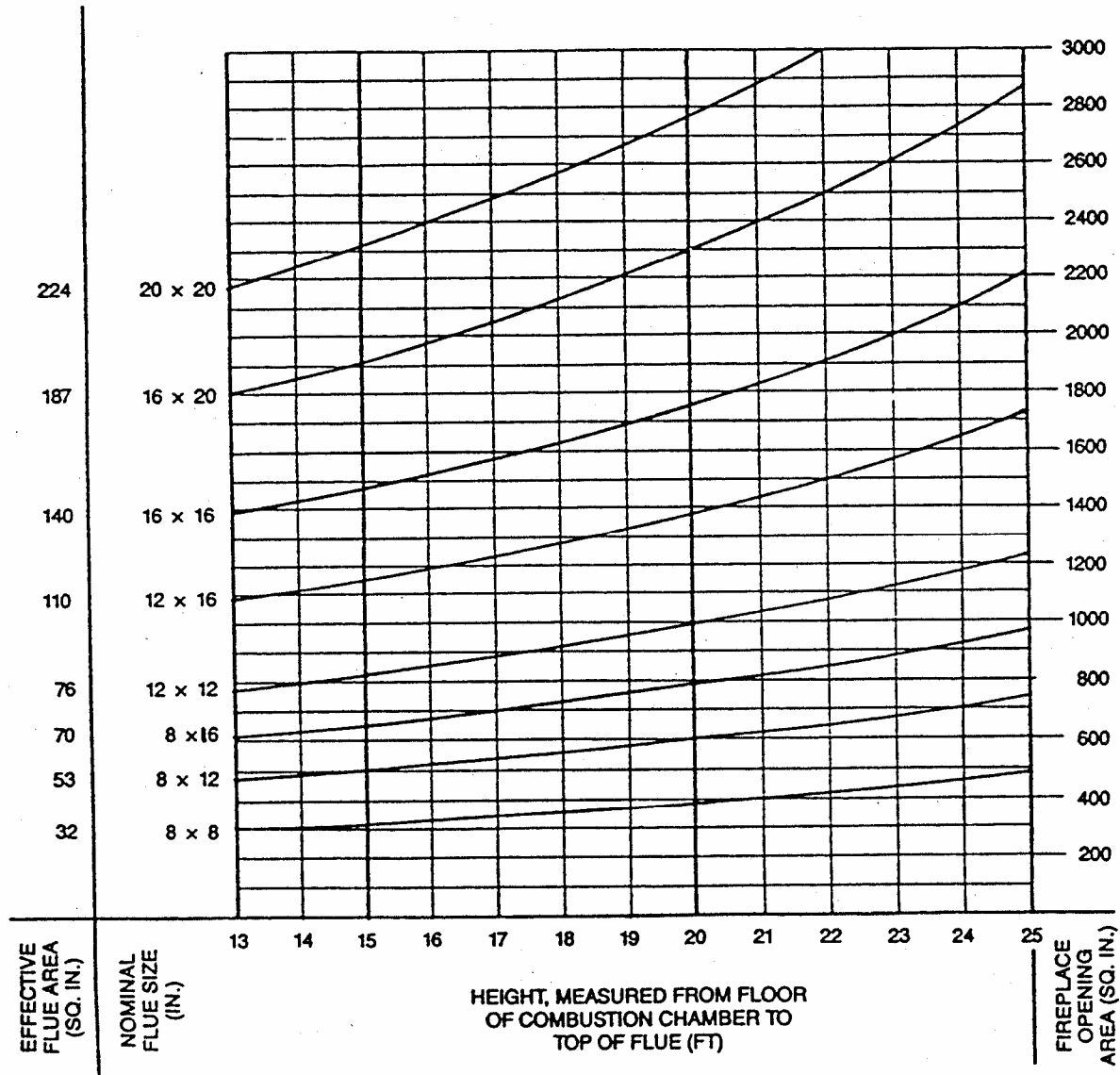
3610.2.8 Flue lining (installation): Flue liners shall extend from a point not less than eight inches (203 mm) below the lowest inlet or as otherwise required by 248 CMR or 527 CMR if applicable, or, in the case of fireplaces, from the top of the smoke chamber, to a point above the enclosing walls. Fireclay flue liners shall be laid with tight mortar joints left smooth on the inside and installed to maintain a $\frac{1}{2}$ -inch-wide (12.7 mm) air space separating the flue liners from the interior face of the chimney masonry walls. Flue lining shall be supported on all sides.

3610.2.9 Multiple flues: When two or more flues are located in the same chimney, masonry wythes shall be built between adjacent flue linings. The masonry wythes shall be at least four inches (102 mm) thick and bonded into the walls of the chimney.

Exception: When venting only one appliance, two flues may adjoin each other in the same chimney with only the flue lining separation between them. The joints of the adjacent flue linings shall be staggered at least seven inches (178 mm).

3610.2.10 Flue area (appliance): Chimney flues shall not be smaller in area than that of the area of the connector from the appliance. The sizing and installation of a chimney flue to which multiple-appliance venting systems are connected shall be in accordance with 780 CMR 3621.

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For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 square inch = 645.16 mm².

1. When using figure 3610.2.11, select the smaller flue size when the opening and height selected for the fireplace and chimney, respectively, intersect between standard flue sizes.

3610.2.11 Flue area (masonry fireplace): The cross-sectional area of the chimney flue shall be determined in accordance with Figure 3610.2.11. For square or rectangular flues, the nominal flue size shown or a size providing equivalent cross-sectional area shall be used. For round flues, the size selected shall be at least equal to the effective flue area determined in accordance with Figure 3610.2.11. The height of the chimney shall be measured from the firebox floor to the top of the last chimney flue tile. Individual flue tiles shall not have a cross-sectional area less than 50 square inches (0.032 m²) for round flues or 64 square inches (0.041 m²) for square or rectangular flues. Unlined chimneys shall have a minimum cross-sectional area of 100 square inches (0.064 m²).

3610.2.12 Inlet: Inlets to masonry chimneys shall enter from the side. Inlets shall have a thimble of fireclay, rigid refractory material or metal that The requirements of 780 CMR 3610.2.14 shall not eliminate the requirement for noncombustible

will prevent the connector from pulling out of the inlet or from extending beyond the wall of the liner.

3610.2.13 Masonry chimney cleanout openings: Cleanout openings shall be provided within six inches (153 mm) of the base of every masonry chimney.

Exception: Chimneys serving masonry fireplaces.

3610.2.14 Chimney clearances: A portion of a masonry chimney located in the interior of the building or within the exterior wall of the building shall have a minimum air space clearance to combustibles of two inches (51 mm). Chimneys located entirely outside the exterior walls of the building, are permitted to have combustible material in contact with the chimney exterior surfaces. Masonry chimneys equipped with a chimney lining system listed and labeled for use in chimneys in contact with combustibles in accordance with UL 1777, and installed in accordance with the manufacturer's installation instructions, are permitted to have combustible material in contact with their exterior surfaces.

firestopping in accordance with 780 CMR 3610.2.15.

3610.2.15 Chimney firestopping: See 780 CMR 3606.2.7.

3610.2.16 Chimney crickets Chimney shall be provided with crickets when the dimension parallel to the ridgeline is greater than 30 inches (762 mm) and does not intersect the ridgeline. The intersection of the cricket and the chimney shall be flashed and counterflashed in the same manner as normal roof-chimney intersections. Crickets shall be constructed in conformity with Figure 3610.2.16 and Table 3610.2.16.

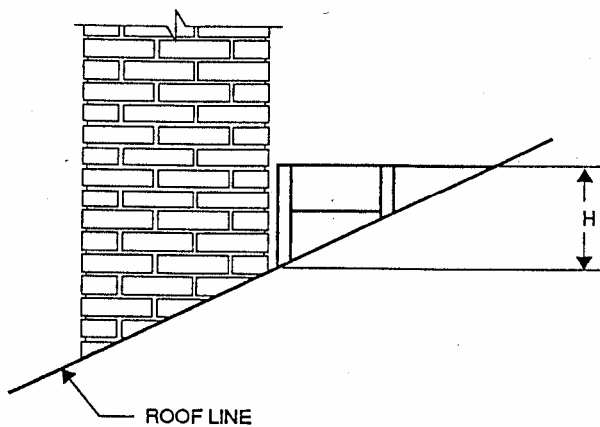


Table 3610.2.16
CRICKET DIMENSIONS

ROOF SLOPE	H
12 - 12	1/2 of W
8 - 12	1/3 of W
6 - 12	1/4 of W
4 - 12	1/6 of W
3 - 12	1/8 of W

3610.3 Factory-built chimneys, general: Factory-built chimneys shall be tested and listed to UL-103 or CAN/ULC-S629-M87 as found in **Appendix A** and shall be installed, operated and maintained in accordance with the conditions of their listing and the manufacturer's requirements. Factory-built chimneys that are listed as part of an assembly with factory-built fireplaces shall conform to 780 CMR 3610.5.1.

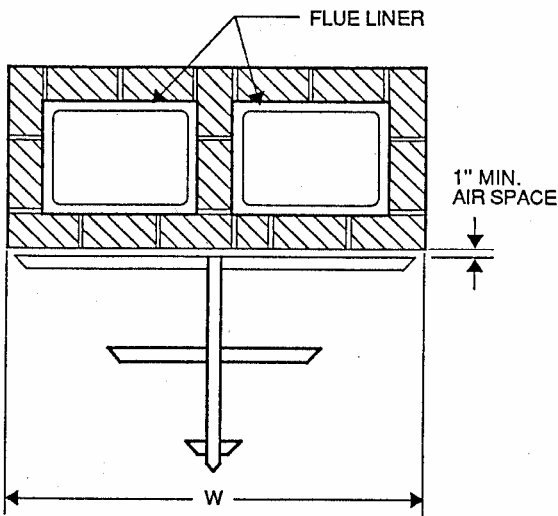
3610.4 Masonry fireplaces, general: Masonry fireplaces shall conform to the requirements of 780 CMR 3610.4.1 through 3610.4.7.

Note: Masonry fireplaces may be prescriptively constructed or may be of the “Rumford” type or may be of contemporary design; refer, additionally to the BOCA National Mechanical Code; Brick Institute of America, Technical Notes

and NFPA 211 as listed in **Appendix A** - also see Figures 3610.4.1a, 1b, 1c, 1d,. 1e, 1f and 1g.

3610.4.1 Fireplace support: Fireplace foundations and supporting walls shall be anchored, supported and reinforced as required in 780 CMR 3610.4.1 through 3610.4.7, Table 3610.4.1, Figure 3610.4.1a and the applicable provisions of 780 CMR 3603 and 3604.

Exception: Masonry fireplaces other than those that are prescriptively constructed shall comply with the requirements of 780 CMR



3610.4.1 through 3610.4.7 but may be of a design other than shown in Figure 3610.4.1a - also see Figures 3610.4.1b, 1c, 1d,. 1e, 1f and 1g.

Foundations for masonry fireplaces and their chimneys shall be constructed of concrete or solid masonry at least 12 inches (305 mm) thick and extend at least six inches (153 mm) beyond the face of the fireplace or supporting wall on all sides. Footings shall be founded on natural undisturbed earth or engineered fill below frost depth. In areas not subjected to freezing, footings shall be at least 12 inches (305 mm) below finished grade.

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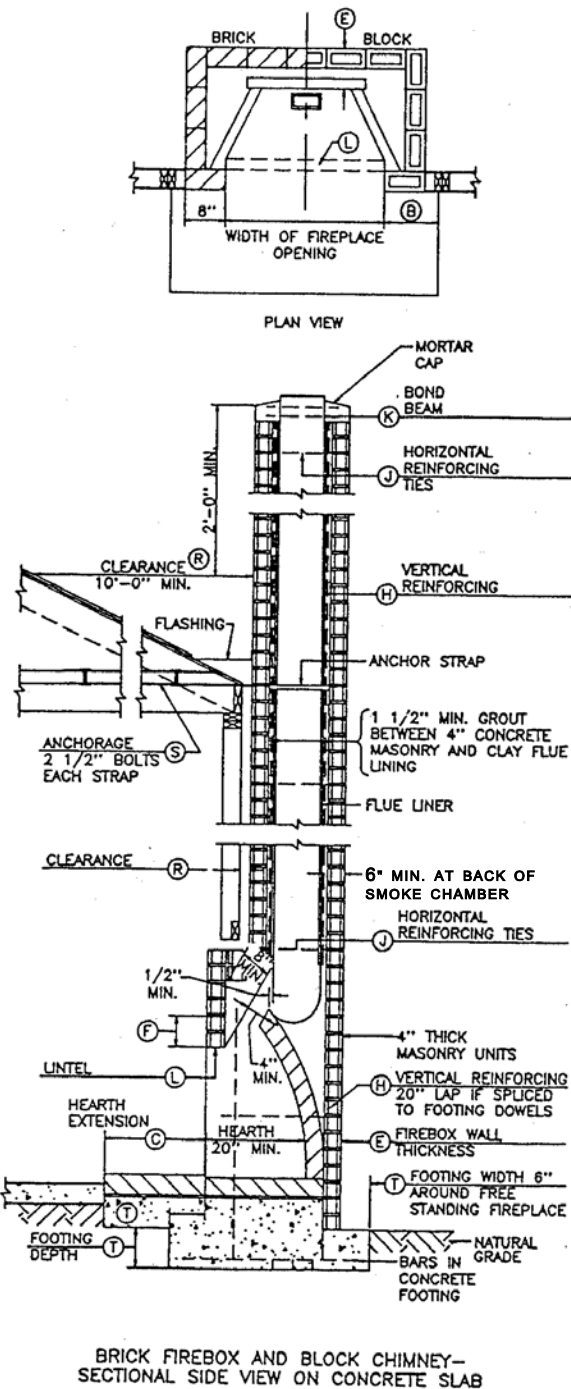
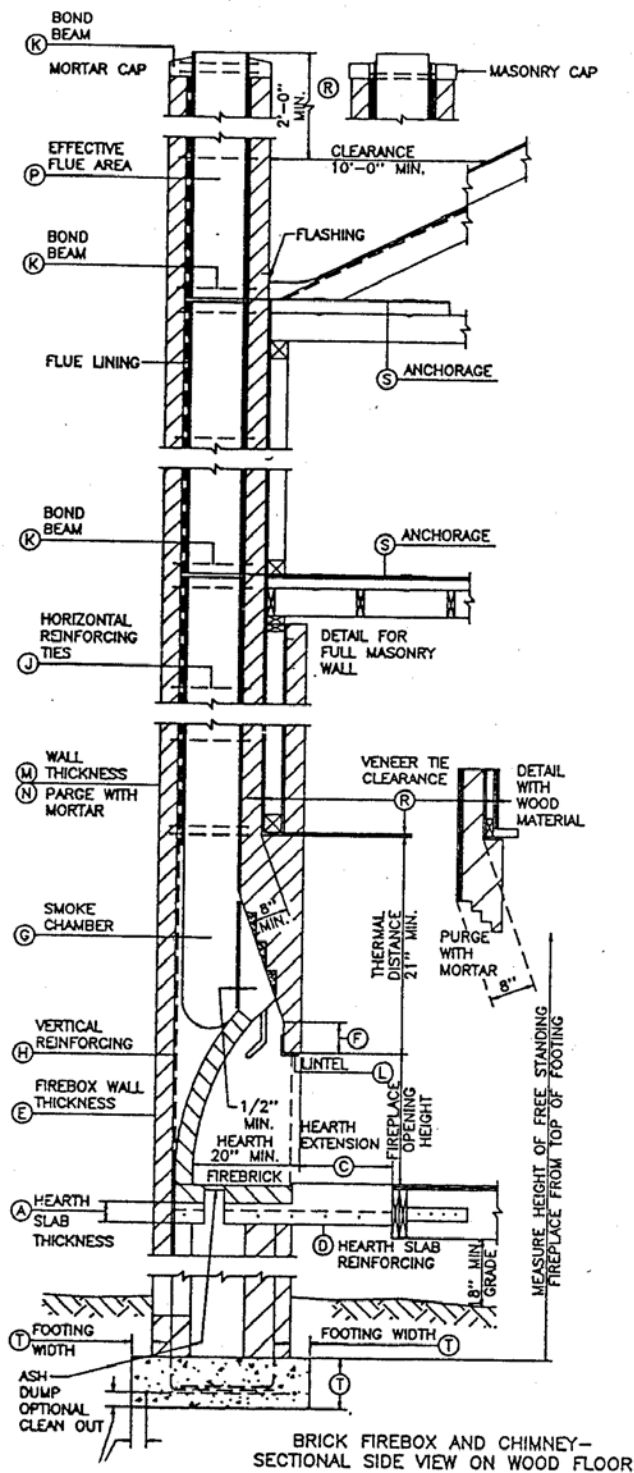
Table 3610.4.1
REQUIREMENTS FOR MASONRY FIREPLACES AND CHIMNEYS

ITEM	LETTER ¹	REQUIREMENTS
Hearth slab thickness	A	4"
Hearth extension (each side of opening)	B	8" fireplace opening < 6 sq. ft. 12" fireplace opening ≥ 6 sq. ft.
Hearth extension (front of opening)	C	16" fireplace opening < 6 sq. ft. 20" fireplace opening ≥ 6 sq. ft.
Hearth slab reinforcing	D	Reinforced as necessary to carry its own weight and all imposed loads
Thickness of wall of firebox	E	12" solid brick or 8" where a firebrick lining is used. Joints in firebrick 1/4" max.
Distance from top of opening to throat	F	8"
Smoke chamber edge of shelf Rear wall - thickness Front wall - thickness	G	6" 8"
Chimney Vertical reinforcing	-	Seismic load reinforcement not required in Massachusetts
Horizontal reinforcing	-	Seismic load reinforcement not required in Massachusetts
Bond beams	K	No specified requirements
Fireplace lintel	L	Noncombustible material
Walls with flue lining	M	Refer to 780 CMR 3610.2.8
Walls with unlined flue	N	Unlined chimneys are not allowed to be constructed in Massachusetts
Distances between adjacent flues	-	Refer to 780 CMR 3610.2..9
Effective flue area (based on area of fireplace opening)	P	Refer to 780 CMR 3610.2.10 and 3610.2.11
Clearances Wood frame and combustible material	R	Refer to 780 CMR 3610.2.14 and 3610.4.7 2' at 10' (780 CMR 3610.2.5)
Above roof		
Anchorage	-	Refer to 780 CMR 3610.4.1 and Figure 3610.4.1a
Footing Thickness Width	T	12" min. 6" each side of fireplace wall

For SI: 1 inch = 304.8 mm.

1. The letters in this column refer to Figure 3610.4.1a

Figure 3610.4.1a
FIREPLACE AND CHIMNEY DETAILS



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Figures 3610.4.1b through 3610.4.1g
TYPICAL FIREPLACE DETAILS

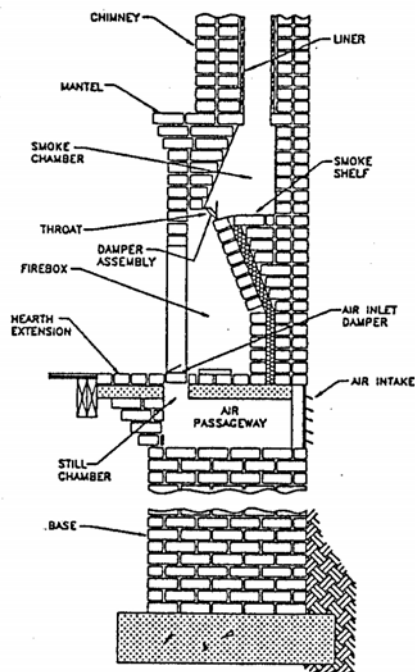


Figure 3610.4.1b
SINGLE-FACE FIREPLACE SECTION

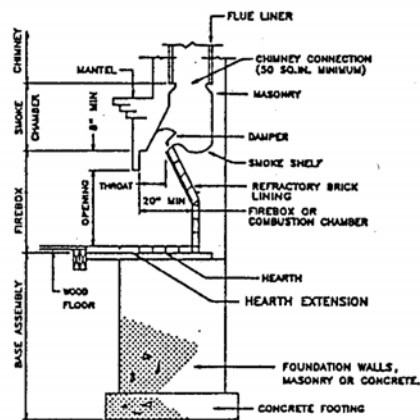


Figure 3610.4.1e
SECTION THROUGH FIREPLACE

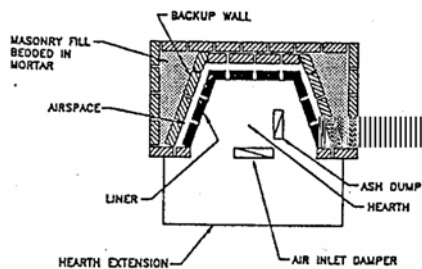


Figure 3610.4.1c
SINGLE-FACES FIREPLACE PLAN

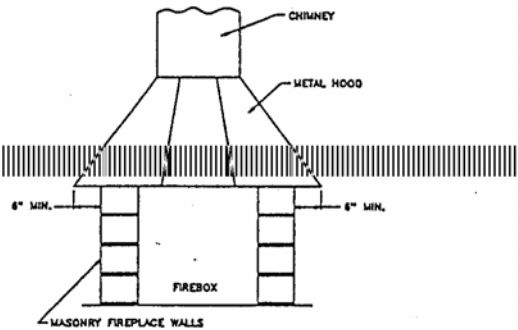


Figure 3610.4.1f
FRONT VIEW OF METAL HOOD OVERHANG

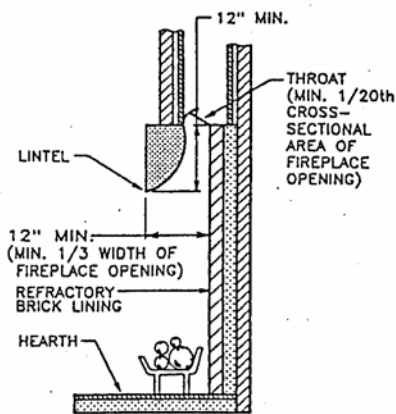


Figure 3610.4.1d
RUMFORD REQUIREMENTS

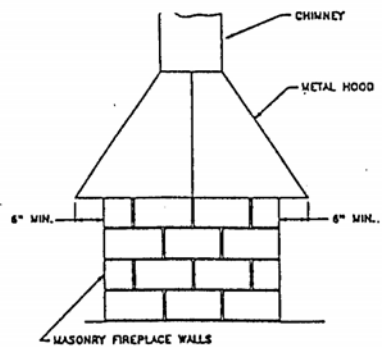


Figure 3610.4.1g
SIDE VIEW OF METAL HOOD OVERHANG

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3610.4.2 Seismic reinforcing: Not applicable in Massachusetts.

3610.4.2.1 Seismic anchorage: Not applicable in Massachusetts.

3610.4.3 Fireplace walls: Masonry fireplaces shall be constructed of solid masonry units, stone or reinforced concrete in accordance with Figure 3610.4.1a. When a lining of firebrick at least two inches (51 mm) in thickness is provided, the total thickness of back and sides, including the lining, shall not be less than eight inches (203 mm). When no lining is provided, the thickness of back and sides shall not be less than 12 inches (305 mm).

3610.4.3.1 Walls, steel fireplace units: Steel fireplace units shall be listed in accordance with UL 127 as found in *Appendix A* and shall be installed, operated and maintained according to their listing, the manufacturer's requirements and any applicable requirements of 780 CMR. Such fireplaces incorporating a fire box liner of not less than ¼ inch (6.4 mm) in thickness and an air chamber, may be installed with masonry to provide a total thickness at the back and sides of not less than eight inches (203 mm), of which not less than four inches (102 mm) shall be of solid masonry. Warm-air ducts employed with steel fireplace units of the circulating air type shall be constructed of metal or masonry.

3610.4.4 Lintel: Masonry over a fireplace opening shall be supported by a lintel of noncombustible material. The minimum required bearing length on each end of the fireplace opening shall be four inches (102 mm).

3610.4.5 Hearth extension material: Hearth extensions shall be of masonry or concrete at least four inches (102 mm) thick and supported by noncombustible materials and reinforced to carry its own weight and all imposed loads. The hearth extension shall be readily distinguishable from the surrounding floor. Combustible forms and centers used during the construction of the hearth extension shall be removed after the construction is complete.

Exception: When the bottom of the firebox opening is raised at least eight inches (203 mm) above the top of the hearth extension, a hearth extension of not less than ½ inch-thick (12.7 mm) brick, concrete, stone, tile or other approved noncombustible material may be used.

3610.4.6 Hearth extension: The hearth and the hearth extension shall extend a minimum of 36 inches (914 mm) from the back of the firebox to the end of the hearth extension. Hearth extensions shall extend at least 16 inches (406 mm) in front of, and at least eight inches (203 mm) beyond, each side of the fireplace opening. Where the fireplace opening is six square feet (0.557 m²) or larger, the hearth extension shall extend at least 20 inches (508 mm) in front of, and at least 12 inches (305 mm) beyond, each side of the fireplace opening.

3610.4.7 Fireplace clearance (also see Figures 3610.4.7a and 7b):

1. Fireplaces - the exterior surface of fireplace walls shall have a minimum of four inches (102mm) clearance to combustibles.
2. Fireplaces - combustible materials attached to a fireplace face, such as trim and mantels, shall have a minimum clearance of six inches (152 mm) from a fireplace opening.
3. Fireplaces - combustible materials above and projecting more than 1½ inches (38mm) from a fireplace face shall have a minimum clearance of 12 inches (305mm) above a fireplace opening.

Note: For chimney clearances to combustibles, see 780 CMR 3610.2.14

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Figure 3610.4.7a
CONSTRUCTION REQUIREMENTS FOR A TYPICAL MASONRY FIREPLACE
IN A WOOD FRAME WALL

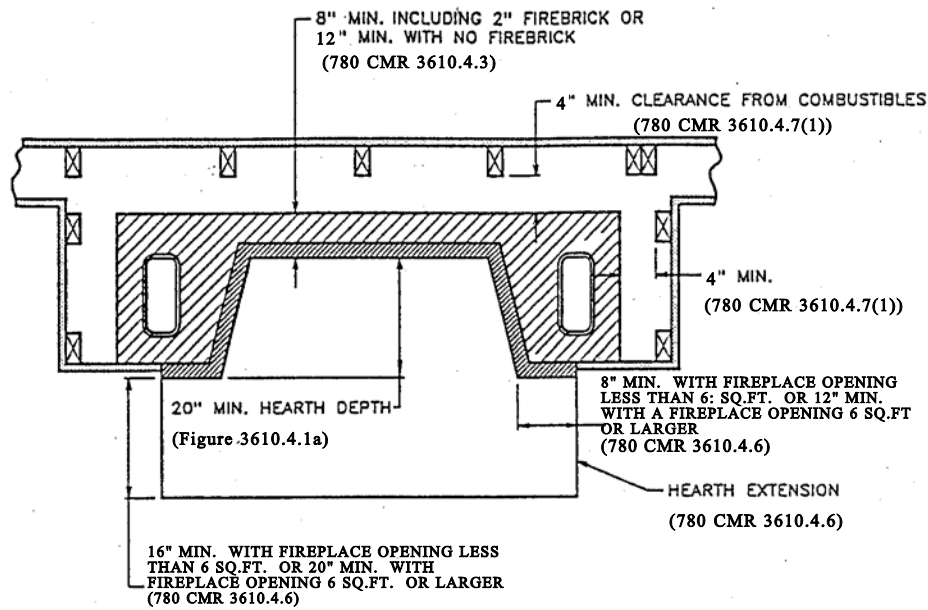
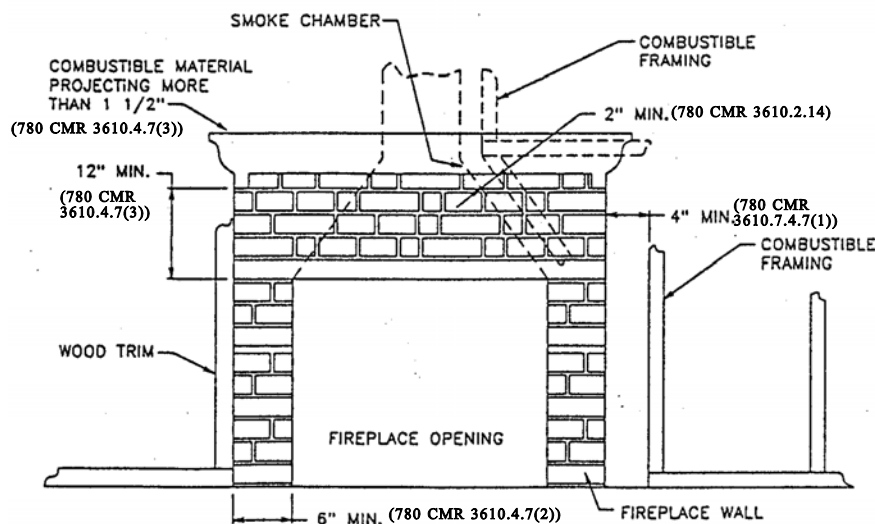


Figure 3610.4.7b



REQUIRED CLEARANCES FROM MASONRY FIREPLACE TO COMBUSTIBLES

3610.5 Factory-built fireplaces, general: Factory-built fireplaces shall conform to the requirements of 780 CMR 3610.5.1 through 3610.5.4.

3610.5.1 Installation: Factory-built fireplaces that consist of a fire chamber assembly, one or more chimney sections, a roof assembly and other parts shall be tested and listed to UL-127 as found in *Appendix A*. Such fireplaces may be installed when complying with all the following provisions:

1. The fire chamber assembly is installed to provide clear clearance to combustible materials not less than set forth in the listing.
2. The chimney sections are installed to provide clearance to combustible material not

less than specified in the listing and if the fireplace chimney extends through floors and ceilings, factory-furnished firestops or firestop spacers shall be installed. Portions of chimneys which extend through rooms or closets are to be enclosed to avoid personal contact, contact of combustible material, and damage to the chimney.

3. Hearth extensions shall not be less than -inch-thick (9.5 mm) millboard, hollow metal, stone, tile or other approved noncombustible material. Such hearth extensions may be placed on combustible subflooring or finish flooring. The hearth extension shall be readily distinguished from the surrounding floor.

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Note: Where *floor protection* underneath, to the sides, back or in front of factory-built fireplaces is required via testing/listing and/or manufacturer's requirements, refer to *floor protector* requirements of 780 CMR 3610.6.7.1 and 3610.6.7.1.1.

4. Hearth extensions shall extend not less than 16 inches (406 mm) in front of and at least eight inches (203 mm) beyond both sides of the fireplace opening.

Exception: Where tested/listed extensions are identified, such hearth extension shall be allowed and required.

5. Factory-built fireplaces shall be installed in accordance with their listing and the manufacturer's installation instructions.
6. The supporting structure for a hearth extension shall be at the same level as the supporting structure for the fire place unit unless otherwise authorized by the listing.

3610.6 Solid fuel burning appliances

3610.6.1 Solid fuel-fired appliances, general: Solid fuel-fired appliances employed for comfort heating include, but are not limited to, room heaters and stoves, fireplace inserts, furnaces and boilers; additionally, the fuel for such appliances includes, but is not limited to: wood and wood pellets, coal and various other solid fuels such as nut shells and corn, etc. Solid fuel-burning appliances shall be tested and listed by *approved agencies* and installed, operated and maintained in accordance with such listing, the manufacturers' requirements and otherwise conform to the requirements of 780 CMR 3610.6.

Note 1: No solid fuel-burning appliance shall be installed in Massachusetts unless such appliance conforms to all applicable requirements of 780 CMR 3610.6, including the testing and listing of all clearances to combustibles and identification of required floor protection.

Note 2: In the absence of explicit requirements of 780 CMR 3610.6, the applicable requirements of NFPA 211 and/or the BOCA National Mechanical Code, as listed in *Appendix A*, shall apply.

3610.6.1.1 Listing standards, Room heaters, stoves and fireplace inserts: Room heaters, stoves and fireplace stoves (inserts), employed for comfort heating shall be listed and tested to UL 1482 and/or ANSI/UL 737 as found in *Appendix A* and as applicable; all such

appliances shall bear labeling as required in 780 CMR 3610.6.2 or 3610.6.3 as applicable.

3610.6.1.2 Listing standards, all pellet fueled solid fuel-burning appliances: All pellet solid fuel-burning appliances sold for use in Massachusetts shall conform to 780 CMR 3610.6.1.1 and additionally comply with the certification program set forth by the State Board of Building Regulations and Standards (for pellet appliance certification information, contact the State Board of Building Regulations and Standards).

Note: Commencing January 1, 1998, all pellet solid fuel-burning appliances shall be tested and listed to ASTM E 1509 as found in Appendix A and shall bear such labeling as required in 780 CMR 3610.6.2

3610.6.2 Solid fuel-burning appliance labeling (not central heating appliances): Every solid fuel-burning appliance utilized for comfort heating shall bear a permanent and legible factory-applied label supplied to the manufacturer and controlled by *an approved testing agency*; such label shall contain the following information:

1. Manufacturer's name and trademark;
2. Model and/or identification number of the appliance;
3. Type(s) of fuel(s) approved;
4. Testing laboratory's name or trademark and location;
5. Date tested;
6. Clearances to combustibles
 - (a) Above top
 - (b) From front
 - (c) From back
 - (d) From sides
7. Floor protection
8. National test standard(s)
9. Label serial number

3610.6.3 Solid fuel-burning central heating appliance labeling: Every solid fuel-burning boiler or warm air furnace shall bear a permanent and legible factory-applied label supplied to the manufacturer and controlled by an approved testing agency; such label shall contain the following information:

1. Manufacturer's name and trademark;
2. Model and/or identification number of the appliance;
3. Type(s) of fuel(s) approved;
4. Testing laboratory's name or trademark and location;
5. Date tested;
6. Clearances to combustibles
 - (a) Above top
 - (b) From front

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- (c) From back
- (d) From sides

- 7. Floor protection if applicable
- 8. National test standard(s)

11. Every boiler, pressure vessel, or pressure relief device must be stamped in accordance with the requirements of the ASME Boiler and Pressure Vessel Code. ASME stamping shall also be required for boilers, pressure vessels and pressure relief devices produced outside the United State of America. Where required by the ASME Boiler and Pressure Vessel Code, ASME stamping may be affixed directly to the appliance in lieu of on the data plate.

3610.6.3 Hazardous locations: Solid fuel-burning appliances shall not be installed in hazardous locations (any location considered to be a fire hazard for flammable vapors, dust, combustible fibers or other highly combustible substances).

Exception: solid fuel-fired appliances listed for such locations.

3610.6.4 Air for combustion and ventilation: Solid fuel-burning appliances shall be installed in a location and manner to assure satisfactory combustion of fuel, proper chimney draft and maintenance of safe operating temperatures. Combustion air may be obtained from interior spaces when the interior space containing the appliance has a volume, in cubic feet equal to

- 9. Label serial number
- 10. Type of appliance (boiler or warm air furnace)

one-twentieth (1/20) of the output Btu rating of all fuel-burning appliances in the space. When buildings are so tight as to preclude adequate infiltration, provisions shall be made to introduce outside air for combustion and ventilation.

3610.6.5 Chimney connection: All solid fuel-burning appliances shall be connected to chimneys in accordance with their listing, the manufacturer’s requirements and the requirements of 780 CMR 36.

Exception: Solid fuel-burning appliances listed for exhaust vent termination other than through a chimney.

3610.6.5.1 Chimney connector clearance to combustibles: See 780 CMR Table 3610.6.5.1.

3610.6.5.2 Chimney flue size: For solid fuel-burning comfort heating appliances for one- and two family use, the cross-sectional area of the flue shall not be less than the cross-sectional area of the appliance flue collar. The cross-sectional area of the flue shall not be more than three times the cross-sectional area of the flue collar of the appliance.

Table 3610..6.5.1^{1,2}
**CHIMNEY AND/OR VENT CONNECTOR CLEARANCES TO
COMBUSTIBLE MATERIALS/SOLID FUEL-BURNING APPLIANCES ONLY**

Description of Appliance	Connector Type	Minimum Clearance (in)	Minimum Clearance (mm)
<i>Residential-Type Appliances</i>	Single-wall Metal Pipe Connector	18	457
<i>Residential-Type Appliances</i>	Type L Vent Piping Connector	9	229
<i>Low-heat Appliances</i> Boilers, Furnaces, Water Heaters	Single-wall Metal Pipe Connector	18	457
<i>Medium-Heat Appliances</i>	Single-wall Metal Pipe Connector	36	914
<i>High-Heat Appliances</i>	Masonry or Metal Connector	Note 3	Note 3

- 1. For greater detail and guidance, refer to NFPA 211, Section 6-5.
- 2. For Chimney Connectors tested and listed for other clearances to combustibles, such tested, listed clearances shall apply.
- 3. Clearances shall be based on engineering calculations and, good engineering practice - Refer to NFPA 211, Section 6-5

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3610.6.6 Connection to masonry fireplaces: A solid fuel-burning appliance such as a stove or fireplace insert shall be permitted to use a masonry fireplace flue where the following conditions are met:

1. There is a connector that extends from the appliance to the flue liner;
2. The cross-sectional area of the flue is no more than three times the cross-sectional area of the flue collar of the appliance but never less than the appliance exhaust collar cross-sectional area;
3. If the appliance vents directly through the chimney wall above the smoke chamber of the fireplace, there shall be a noncombustible seal below the entry point of the connector, sealing the fireplace from the appliance;
4. The installation shall be such that the chimney system can be inspected and cleaned;
5. Means shall be provided to prevent dilution of combustion products in the chimney flue with air from the habitable space.

3610.6.7 Mounting (placing) of residential solid fuel-burning appliances: Residential type solid fuel-burning appliances shall be tested and listed by *approved agencies* and such appliances, when mounted (placed) on combustible or noncombustible materials, shall be installed in accordance with their listing and the manufacturer's requirements.

Exceptions: See NFPA 211, Section 9-5.1.1.1 (all such exceptions pertain to placing of such appliances on well supported concrete bases, concrete slabs, properly stabilized, noncombustible soils or on approved, noncombustible assemblies of two hour fire resistance with floors constructed of noncombustible materials).

3610.6.7.1 Floor protection: Floor protection shall satisfy all listing requirements.

3610.6.7.1.1 Floor protectors - definition: *Floor protectors* are noncombustible surfacing applied to the combustible or noncombustible floor area underneath and extending in front, to the sides and to the rear of a heat producing appliance. For purposes of 780 CMR 3610.6.7, *floor protectors* must be noncombustible and have the necessary thermal conductivity to satisfy the appliance tested/listing floor protection requirements.

Note 1: Refer to Appendix K for information on floor protector thermal conductivity calculations

Note 2: Various "hearth rugs", "mats", "tile board", "hearth board" and similar products, sold as floor protectors may be noncombustible but may not satisfy thermal conductivity requirements to comply with 780 CMR 3610.6.7.1.

3610.6.8 Appliance clearances: Solid fuel-burning appliances shall be installed in accordance with the manufacturer's tested, listed clearances (also see 780 CMR 3610.6.11.1 for *used* solid fuel-burning appliance clearance requirements).

3610.6.8.1 Clearance reductions: Tested, listed clearances to combustibles shall only be permitted to be reduced in accordance with the requirements of NFPA 211, Section 9-6.1 and 9-6.2.

Note that an engineered protection system is required to achieve a reduced clearance installation except when appliances are installed in rooms that are large in comparison to the size of the appliance - see NFPA 211, Section 9-6.1.

3610.6.9 Supply ducts: When a solid fuel-burning appliance utilizes supply ducts such ducts conveying heated air shall be fabricated of noncombustible materials.

Exception: Combustible ducts specifically tested and listed for such purpose.

3610.6.9.1 Supply duct clearance to combustibles: Supply ducts conveying heated air shall have a clearance to combustibles of not less than 12 inches for the first ten feet of distance from the appliance plenum/bonnet.

Exception: ducts specifically tested and listed for such purpose.

3610.6.10 Multiple flue connections: A solid fuel-burning appliance and a fossil fuel-burning appliance shall not be vented into a common flue of a masonry chimney unless such common connection is allowed by 248 CMR or 527 CMR as applicable. If allowed, the common flue shall be of such size to serve all appliances connected if such appliances were operated simultaneously.

Note that 248 CMR and 527 CMR are enforced by Gas Inspectors and the Heads of Fire Departments, respectively.

3610.6.10.1 Multiple flue connections not allowed: A solid fuel-burning appliance shall not share a common flue with a working

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fireplace nor with another solid fuel-burning appliance (also see 780 CMR 3610.6.10 above).

Exception: 780 CMR 3610.6.6.

3610.6.11 Used solid fuel-burning appliances - installation inspection: Used solid fuel-burning appliances that predate the listing requirements set forth in 780 CMR 3610 may be utilized but the installation of such appliances shall otherwise conform to the requirements of 780 CMR 3610 and such installations shall be inspected by the Building Official (or Fire Official in such towns that utilize the Fire Official for such inspection purposes).

3610.6.11.1 Used solid fuel-burning appliance clearances to combustibles: In the absence of tested, listed clearances and floor protection requirements, used solid fuel-burning appliances shall be required to be installed in accordance with the clearances of Table 3610.6.11. Floor protection requirements shall be evaluated by engineering methods or otherwise four inches of inch millboard having a thermal conductivity of :

$k = 0.84 \text{ (Btu) (inch) / (foot}^2\text{) (hour) (}^\circ\text{F)}$

or an equivalent noncombustible *floor protector* of the same overall thermal conductivity shall be required (also see 780 CMR 3610.6.7.1.1).

Exception 1: If tested, listed clearances and/or floor protection requirements are documentable for the specific used appliance being installed, then such clearances and/or floor protection may be utilized.

Exception 2: If known tested, listed clearances are greater than those of Table 3610.6.11, then such clearances must be maintained.

Exception 3: If existing floor protection can be demonstrated to have been adequate for previous installations of said used solid fuel-burning appliances then such previously utilized floor protection shall be allowed. If calculations demonstrate that the existing floor protection has a thermal conductivity lower than that set by 780 CMR 3610.6.11.1 and adequacy has otherwise been demonstrated, then the existing floor protection must be maintained.

Table 3610.6.11^{1,2,3}
STANDARD CLEARANCES TO COMBUSTIBLES FOR SOLID FUEL-BURNING APPLIANCES

Appliance Type	Clearance Above Top of Appliance (inches)	Clearance from Front of Appliance (inches)	Clearance from Back of Appliance (inches)	Clearance from Sides of Appliance (inches)
Room Heaters; Fireplace Stoves; Combination	36	36	36	36

- 1. For reduced clearance requirements, see 780 CMR 3610. 6.8.1
- 2. Adequate clearance for maintenance and cleaning shall be provided.
- 3. Provisions for solid fuel storage - solid fuel shall not be stored any closer than 36 inches from the sides, front or back of the solid fuel-burning appliance.